

# Minimizing Surprise at the End of the World: Friston's Predictive Brain, Nuclear Fire, and Christian Eschatology

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This paper asks a blunt question: if Karl Friston is broadly right that the human brain exists to minimize surprise, what happens in the first hours of an apocalyptic nuclear war? Standard predictive-processing accounts describe brains as generative models that struggle to keep sensory inputs within the bounds of what they expect. A civilization-ending nuclear exchange is, by design, maximal violation: light, blast, radiation, infrastructure collapse, and information chaos. Yet for many Christians, such a catastrophe would not arrive into a vacuum. It would fall into an already internalized story of “wars and rumors of wars,” judgment, and the expectation of an End Times sequence. We explore how eschatological priors interact with predictive brains under extreme shock. Some believers may experience the event as a horrifying but narratively unsurprising confirmation of long-held expectations, and that interpretive speed can drastically shape behavior. One trajectory bends toward withdrawal and vindication: “we always knew it would end like this.” Another bends toward cruciform service: a sharpened resolve to love and care “to the end.” Using Friston’s free energy principle, disaster sociology, and a logostic framework of  $q(t)$  aligning with  $\tau$ , we explore how different Christian priors might govern action when the world’s surface story ends.

Keywords: Friston free energy principle, predictive processing, nuclear war, apocalyptic eschatology, Christian theology, End Times, surprise minimization, disaster behavior, moral psychology, logostics.

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## **1. Introduction – Predictive Brains at the End of History**

The claim that the brain exists to minimize surprise sounds abstract until it collides with the image of cities burning under nuclear fire. Karl Friston's free energy principle, and the broader predictive-processing framework it anchors, portray human beings as organisms whose nervous systems constantly generate expectations about the world and then work to keep incoming sensory data within the bounds of those expectations. On that view, perception, action, emotion, and even attention are tools for reducing the long-run mismatch between "what I expected" and "what I got."

But what happens when the mismatch is, for all practical purposes, maximal? A civilization-ending nuclear exchange would deliver not only unprecedented physical devastation, but also a concentrated epistemic and moral shock: lights in the sky, infrastructures failing, institutions collapsing, and long-held assumptions about continuity and control shattered in minutes. For many secular moderns, such an event would be almost literally unthinkable: something relegated to fiction, deterrence theory, or dismissed as a relic of the Cold War. For many Christians, by contrast, nuclear catastrophe would not arrive into a narrative vacuum. It would fall into a story already inhabited: prophecies of war and judgment, the expectation that history ends in upheaval, and the hope of a new creation beyond the ruin.

This paper sits at the intersection of those two frames. It asks how predictive brains, formed under particular theological and cultural priors, might behave in the first hours of an apocalyptic nuclear war. It argues that the issue is not simply whether some believers will be "unsurprised" in an eschatological sense, but how that lack of narrative surprise channels their behavior either toward withdrawal and vindication or toward a cruciform, self-giving love.

### **1.1 Friston's question in eschatological time**

The free energy principle claims, in highly compressed form, that adaptive systems persist by maintaining their states within viable bounds. They do this by building generative models of the causes of their sensory inputs and then updating those models, or acting on the world, to keep prediction error low over time. In everyday terms, the brain is less a passive camera and more a hypothesis machine: it constantly guesses what is going on and then tries to avoid being catastrophically wrong.

Most applications of this idea stay within ordinary time: learning, perception, emotional regulation, psychiatric disorders. Here we stretch it into eschatological time. Instead of asking how a brain keeps surprise tolerable across a lifespan, we ask how it reacts when the entire historical frame it has assumed is suddenly threatened. The question is deliberately stark: if Friston is broadly right, what does a surprise-minimizing brain do when faced with what many traditions describe as the "end of the world"?

For a predictive-processing account, the eschatological dimension is not an exotic add-on. Long-run expectations about where history is going function as high-level priors in the generative model. If a person lives inside a story in which the world must end in judgment and renewal, that expectation shapes how plausible, how surprising, and how morally significant catastrophic events will feel when they arrive. Eschatology in this sense is not only theology; it is the long-horizon parameterization of the brain's predictive stance toward history.

## **1.2 Why nuclear war is a useful limiting case for predictive processing**

A global nuclear exchange matters here as a limiting case rather than a prediction. It is the kind of event designed by human beings to be maximally disruptive at every level: bodily, social, symbolic. It couples immediate sensory shock with rapid, cascading breakdowns in communication, infrastructure, and authority. It renders familiar maps and routines unreliable and destroys the illusion that the near future will resemble the recent past.

For a predictive brain, this is almost a worst-case scenario. Short-term homeostatic expectations (about bodily safety, temperature, food, and shelter) are violated. Medium-term expectations (about economic stability, institutional reliability, and personal projects) become impossible to maintain. Long-term expectations (about the continuity of civilization, the future of one's children, and the stability of nation-states) are thrown into deep doubt. The entire stack of predictions, from interoception to geopolitics, is assaulted at once.

That extremity is precisely why the scenario is analytically useful. If predictive-processing theories are to be taken seriously as general accounts of brain function, they must at least be coherent when extended to the edge of the imaginable. Nuclear apocalypse also has the virtue of being morally thick. It is not only a sensory anomaly, but a human-made judgment on our capacity for self-destruction. Bringing it into dialogue with Christian eschatology forces a confrontation between a mathematical description of surprise minimization and a theological description of history under judgment and promise. In that confrontation, differences in how people inhabit apocalyptic narratives become a central variable, not a footnote.

## **1.3 Christians who “will not be surprised”: the problem and opportunity**

Within many Christian subcultures, the expectation of an ultimate crisis is not abstract. Sermons, fiction, films, and informal conversations rehearse the idea that global war, environmental collapse, or persecution may precede a final judgment. For those formed by such eschatological teaching, the outbreak of nuclear war would be horrifying but not conceptually shocking. It would arrive as confirmation of a long-anticipated pattern rather than as an unthinkable anomaly.

This relative lack of narrative surprise is ambivalent. On one hand, it can reduce the disorienting cognitive chaos of the event. If the catastrophe “fits” an existing story, the believer does not

need to invent an entirely new interpretive framework under extreme stress. That can stabilize emotion and attention, allowing for purposeful action when others are still paralyzed by disbelief. On the other hand, the same framework can tilt behavior in profoundly different directions.

One attractor is escape and vindication. If the operative prior is that the world is hopelessly corrupt and that the main task is to be personally saved or proven right, then nuclear fire can feel like the final unveiling of what was always suspected. The least surprising, most self-consistent response to such a belief may be withdrawal, fatalism, or even a kind of dark satisfaction that others now “see” what was warned of. The other attractor is cruciform service. If the prior includes a clear sense that following Christ means walking into suffering with and for others, then the same apocalyptic event can sharpen responsibility rather than shrink it. The believer may experience a last, urgent clarity that the remaining hours or days are precisely when it matters most to feed, tend, reconcile, and comfort.

The existence of Christians who “will not be surprised,” in the eschatological sense, is therefore both a problem and an opportunity. It is a problem because eschatological certainty can anesthetize compassion and justify passive spectatorship of the world’s ruin. It is an opportunity because those same priors, rightly ordered, can support extraordinary courage and self-giving in circumstances that make purely secular hope almost impossible to maintain.

#### **1.4 Scope, method, and limits of this inquiry**

This paper operates as a conceptual and theological essay, not as an empirical prediction of behavior under nuclear war. It weaves together three strands. First, a high-level reading of the free energy principle and predictive-processing accounts of brain function, with particular attention to how they understand surprise, priors, and action under extreme uncertainty. Second, findings from disaster sociology and psychology about how humans typically behave in large-scale crises, paying special attention to the prevalence of prosocial behavior and the role of narratives in organizing response. Third, Christian eschatological motifs, especially those that shape expectations about war, judgment, and the end of history in contemporary communities.

The method is exploratory rather than definitive. It treats Friston’s framework as a powerful constraint—brains must, in some sense, minimize long-run surprise to remain viable—but does not claim that this single principle exhausts the complexity of human moral and spiritual life. It takes Christian narratives seriously as live priors in the generative models of real communities, but it does not attempt to adjudicate between denominational eschatologies or predict the behavior of any particular group. It borrows the language of logistics, in which  $q(t)$  denotes the living, time-dependent state of a community and  $\tau$  represents the truth-shaped manifold

toward which it may or may not be aligning, as a way to talk about how pre-existing curvature in belief and practice is revealed rather than created by crisis.

There are clear limits. We do not simulate specific battle plans, fallout patterns, or infrastructural cascades. We do not survey actual congregations or run experiments. We do not claim that predictive-processing models can or should replace theological discernment. Instead, we ask a narrower but still demanding question: given what is already known about predictive brains and about Christian eschatology, how might different priors make some responses to the end of the world feel more “natural,” less surprising, and thus more likely than others? The rest of the paper unfolds that question, not to luxuriate in catastrophe, but to clarify what it would mean to prepare hearts and communities so that, if the worst comes, it does not find love itself as the most surprising casualty.

## **2. Friston’s Free Energy Principle and the Minimization of Surprise**

To make sense of how people might react at the edge of history, we need at least a sketch of the machinery Friston and others are talking about. The free energy principle hangs on a deceptively simple claim: any organism that persists over time must somehow keep its sensory states within a narrow band compatible with survival. It does this, not by passively enduring whatever happens, but by forming expectations about the world and acting to keep reality from straying too far from those expectations.

In formal work, this is expressed in terms of probability distributions, generative models, and something called variational free energy. For our purposes, we can speak more simply. The nervous system carries an internal model of what the world is like and what is likely to happen next. When incoming sensations do not match this model, the mismatch shows up as prediction error. The organism can then either change itself, change the world, or change its expectations in ways that reduce that error. Over time, systems that are good at keeping prediction error within tolerable bounds survive and reproduce; systems that fail drift into states from which they cannot return.

In ordinary life, this process is mostly invisible. Small mismatches are corrected smoothly as we learn, adapt, and adjust. The free energy principle becomes most visible when something drastic occurs, when the gap between “what I expected” and “what is happening” becomes too large to ignore. Catastrophe, especially one engineered to be both sudden and global, stretches the predictive machinery to its limits. Understanding how the machinery works, at least in outline, gives us a better language for talking about what people feel and do in such moments.

## **2.1 Generative models, prediction error, and free energy in brief**

A generative model, in this context, is the brain's internal guess about how sensations are produced. It is "generative" because it can, in principle, generate predictions of future sensory inputs based on hidden causes: the layout of the room, the intentions of other people, the likely trajectory of a falling object, the continuation of national life into next year. The brain does not simply register light, sound, and pressure; it constantly infers what must be out there for those signals to make sense.

Prediction error is the difference between what the model predicted and what the senses actually report. When the model expects a quiet room and a loud crash occurs, there is a spike of error. When the model expects a familiar face and sees a stranger, there is error. Some of this error is noise and can be ignored; some signals that the model itself needs updating. The key task is to decide which is which and to respond accordingly.

Free energy, in the technical sense, is a single quantity that upper-bounds surprise in probabilistic terms. It is a mathematical proxy that the system can actually compute, whereas true surprise would require perfect knowledge of the world's probability structure. Minimizing this free energy, moment by moment, is equivalent to finding a model and a set of actions that keep prediction error manageable over time. The details of the derivation can be left to the formal literature. The important point is that, on this view, perception, learning, and action are not separate modules but different aspects of the same underlying imperative: stay in familiar-enough regions of the sensory and bodily state space to remain alive.

This picture is hierarchical. Low-level parts of the system predict immediate, fast-changing signals like edges, tones, or tactile patterns. Higher levels predict slower and more abstract patterns: the presence of objects, the behavior of other agents, cultural norms, and long-run expectations about how history usually unfolds. Eschatology, in a brain that holds one, lives near the top of that hierarchy as a story about how the whole trajectory of the world is supposed to go. Nuclear war, if it comes, attacks the hierarchy from both ends at once.

## **2.2 Two levers for minimizing surprise: changing the world and changing the model**

The free energy principle distinguishes, at a high level, two main ways an organism can reduce prediction error.

The first is to change the world it samples. This is what we usually call "action." If I predict that I will feel the solid floor beneath my feet, I can stand up and walk to confirm that expectation. If I predict that food will reduce the unpleasant interoceptive signals of hunger, I can open the refrigerator. Action, in this framework, is the brain's way of making its own predictions come true. It steers the body into situations where sensations match prior expectations.

The second is to change the model. This is what we usually call “learning” or “belief revision.” If I consistently see something that violates my expectations, I can alter the internal model so that those observations are no longer surprising. A child learns that fire burns and updates the model accordingly. A person raised to believe that war is impossible in their country may, after repeated evidence, revise that belief. In predictive-processing language, this is the brain reallocating its parameters so that the generative model better captures the actual pattern of causes in the world.

In practice, these two levers are intertwined. Action changes the flow of sensory data, while learning changes what counts as surprising. In a crisis, they can also conflict. One part of the system may favor updating the model (“we really are under attack”), while another may prefer to treat the input as noise and act as if the old expectations still hold (“this must be a drill”). The free energy principle does not guarantee that the “right” lever will be pulled; it simply says that some combination will be deployed to bring the system back into a region where the overall mismatch is bearable.

In the context of nuclear war, this distinction becomes stark. To some extent, people can still act to bring their sensations closer to their priors: seek shelter, find loved ones, avoid immediate danger. But there are limits. You cannot act to restore the pre-war world once it has been shattered. Beyond a certain threshold, the only way to reduce surprise is to change the model at very high levels: to accept that the world has irrevocably altered, or to place the catastrophe within a narrative that makes it feel, if not less terrible, at least less senseless.

### **2.3 Precision, attention, and the weighting of signals under stress**

Prediction error is not all equal. The brain must decide which discrepancies to treat as important and which to ignore. This is where the notion of precision comes in. Precision, in this context, is a measure of confidence in a signal. Highly precise prediction errors are those the system treats as trustworthy and worth updating for; imprecise ones can be dismissed as noise or transient anomaly.

Attention is often described, within predictive processing, as the selective increase of precision on certain channels. To attend to something is to let its errors matter more. Under normal circumstances, this allows flexible, context-sensitive behavior. Under stress, however, precision assignment can go badly wrong. The system can become hypersensitive to certain cues, reading threat into every shadow, or it can clamp down and refuse to register information that would overturn cherished expectations.

In a nuclear crisis, the precision landscape is violently rearranged. Loud noises, bright flashes, and bodily pain carry high precision whether one likes it or not. Social cues, authority statements, and media signals may suddenly drop in perceived precision if they contradict

direct experience, or, conversely, may be granted excessive precision by those desperate for any authoritative interpretation. Some people will hyper-focus on immediate practical tasks, effectively narrowing precision to a single channel, such as locating family. Others will be swamped by the sheer volume of conflicting error signals and will shut down, lowering precision across the board as a kind of protective numbness.

Eschatological priors live here as well. If a person already carries a highly precise expectation that history must end in catastrophe and judgment, then a nuclear event may be granted immediate, high-precision confirmation status. The sensory evidence that something immense and terrible is happening will be tightly coupled to that prior, and alternative explanations may be treated as low precision even if they are more accurate in detail. Conversely, if someone holds a very precise belief that such things cannot happen here and now, even clear evidence may be treated as unreliable and discounted as rumor, error, or temporary fluctuation. The way precision is assigned to sensory inputs and narratives, in other words, will strongly shape how quickly and in what direction the generative model shifts.

## **2.4 From equations to lived experience: how predictive brains feel in crisis**

The formal language of free energy, prediction error, and precision can sound bloodless, but it maps closely to familiar human experiences. When expectations are roughly met, we experience a sense of ease and normalcy. When small mismatches arise, we feel curiosity, mild anxiety, or irritation and move to correct them. When mismatches become overwhelming, we feel confusion, terror, or unreality. Our bodies tighten, our field of attention narrows or fragments, and our thoughts race to find any story that can make sense of the chaos.

In a crisis like nuclear war, the predictive machinery does not turn off; it becomes painfully visible. The pounding heart and shallow breath are the interoceptive system registering immense error about bodily safety. The urge to call a loved one is not only affection but an attempt to restore a predictable relational pattern in a world that has suddenly become incoherent. The sense that everything feels “like a movie” is a sign that high-level models are failing to integrate the sensory stream, falling back on familiar fictional templates to keep the shock at a slight distance. Dissociation, where one feels detached from one’s own body or surroundings, may be the extreme form of treating certain torrents of error as effectively zero precision, so they no longer threaten to overturn the model.

Religious interpretation, including Christian eschatology, is also part of lived predictive processing. To frame an event as “End Times” is to perform a rapid model update at the highest level, placing the catastrophe in a story that has been rehearsed over years. That can bring a strange, sober clarity: the event is no longer meaningless, even if it remains heartbreaking. It can also carry a dangerous temptation: if the model now says that this is what was always

supposed to happen, there can be a subtle pressure to adjust one's feelings and actions to match that expectation, for good or ill.

From the inside, then, a predictive brain in crisis feels like a storm of fear, disbelief, grasping for explanations, and impulses to act. The free energy principle does not replace that phenomenology; it offers a unifying way to understand why those reactions cluster as they do. When we later speak of Christians who are “unsurprised” by catastrophe, we are talking about people whose highest-level models already contain a place for such events. Whether those models then support paralysis or courage, withdrawal or sacrificial love, depends on how the rest of the hierarchy has been formed long before the sirens ever sound.

### **3. Nuclear Catastrophe as Maximal Surprise**

If ordinary life is a gentle field of small discrepancies and routine corrections, nuclear catastrophe is a spike that blows through the dynamic range of the system. From the standpoint of a predictive brain, it is not merely another emergency but a convergence of many kinds of surprise at once: sensory, bodily, social, and existential. It forces low-level circuits tuned to immediate danger and high-level narratives about the shape of history into simultaneous crisis. This section does not rehearse the technical details of blast yields or fallout patterns. Instead, it attends to how such an event would register inside human nervous systems that have spent decades learning the rhythms of a mostly continuous world.

The extremity matters. It is one thing for prediction error to rise in a local accident or natural disaster; it is another when the entire horizon of expectation is called into question. Nuclear war is engineered discontinuity. Its defining feature, from a predictive-processing perspective, is that it collapses the plausible assumption that tomorrow will resemble yesterday. The brain, which normally thrives by exploiting continuity, suddenly cannot rely on it. To understand how Christians might interpret such an event as “unsurprising” within an End Times narrative, we first need to see just how violently surprising it is at every other level.

#### **3.1 Sensory onslaught: blast, light, sound, and bodily shock**

At the lowest levels of the hierarchy, nuclear detonation is a storm of raw input. A flash many times brighter than the sun, a shockwave that crushes structures and ruptures organs, heat capable of igniting skin and clothing at distance, followed by sustained noise, dust, and chaos. Even for those far from ground zero, the cascade of sirens, power failures, distant booms, and strange atmospheric effects would generate a barrage of unexpected signals.

In predictive-processing terms, these are massive, rapidly changing prediction errors arriving at sensory receptors that are not built for them. The eyes have never seen light like this, the ears

have never heard such a pressure wave, the body has never been jolted in quite this way. The internal model that supports everyday expectations about sound levels, light patterns, and bodily safety is blown apart in seconds. The autonomic nervous system responds before any high-level interpretation can catch up: heart rate spikes, muscles tense, breathing becomes shallow or erratic. Fight, flight, or freeze reactions are triggered by sheer force of discrepancy between expected and actual input.

For some, the shock is immediately incapacitating. Loss of consciousness, disorientation, vomiting, or uncontrolled shaking can be read as the body's collapse under a burden of error it cannot integrate. For others, especially those just outside the worst blast zones, there may be frantic attempts to do something that restores a sense of bodily control: grabbing a child, diving behind cover, running without a clear destination. These actions are not calculated strategies in the rational-choice sense; they are the organism's urgent effort to bring sensory states back into anything like a controllable space.

Even in less directly hit areas, where the physical effects are milder, the sensory environment shifts abruptly. The color of the sky, the behavior of power grids, the sudden absence of familiar background noise, the distant sirens and shouting, all signal that the world's usual texture has ripped. The low-level prediction errors arriving through the senses are the first wave of what will become a profound crisis of meaning. They are also the substrate on which higher-level interpretations, including religious ones, will be constructed.

### **3.2 Information collapse: contradictory signals, rumors, and sudden silence**

Above the sensory level lies the layer of social and informational expectation. In normal times, people rely on a relatively stable mesh of communications: news outlets, official alerts, social media, phone calls, text messages. Even when the world feels chaotic, the existence of these channels provides a sense that events are being observed, narrated, and perhaps managed by someone.

Nuclear war attacks this layer with equal ferocity. Communications infrastructure is one of the first casualties. Power outages, damaged networks, overloaded systems, and deliberate jamming or cyberattack create sudden silence where people most expect explanation. At the same time, in the windows before full collapse, there may be a flood of contradictory messages: alerts labeled as tests, alarms misfired or retracted, unofficial reports of explosions or incoming missiles, and panicked social media posts. The brain, already overwhelmed by raw sensory anomalies, now faces a second storm of prediction errors in its social and informational model.

Under such conditions, the assignment of precision to different streams becomes critical. Some will cling to the last official message they received, even if it is outdated, granting it high precision as a stabilizing anchor. Others will treat all institutional voices as suspect and shift

their trust to local witnesses or their own senses. Rumors spread because they offer compressed, emotionally charged explanations that fill the narrative vacuum, even when they conflict. Stories of attacks on multiple cities, of foreign invaders, of traitors inside the government, of miraculous interventions or secret shelters, all compete to occupy the top of the hierarchy where the brain wants a single, coherent “what is happening” label.

The collapse here is not only technical but symbolic. People are accustomed to the idea that someone, somewhere, knows what is going on. When channels go dark or issue mutually incompatible statements, the deeper shock is that no one seems fully in control. This cannot be resolved simply by updating a belief or two; it challenges the prior that there is a coherent, authoritative world-story being told in real time. Eschatological narratives, including End Times frameworks, move into this space not just as theological claims but as candidate replacements for a suddenly failing societal metanarrative.

### **3.3 Herding, prosociality, and the myth of universal panic**

Popular culture often imagines disasters as scenes of universal panic: stampedes, looting, and violent competition for resources. Research on real-world catastrophes tells a more complicated story. In many cases, prosocial behavior and spontaneous cooperation are the norm. People help strangers, form ad-hoc rescue teams, share information, and improvise shelters. Panic does occur, but it is neither as ubiquitous nor as dominant as fiction suggests.

From a predictive-processing perspective, herding and prosociality make sense. When individual models are overwhelmed, looking to others for cues is a rapid way to reduce uncertainty. If a group seems to be moving in a coordinated direction, following them can feel less surprising than standing alone in indecision. Being part of a group that shares information and tasks also restores some sense of predictability: there are roles to play, routines to enact, even in the midst of chaos. The act of helping can itself reduce internal distress by aligning action with deeply held identity priors, such as “I am a decent person” or “We take care of our own.”

The myth of universal panic, by contrast, is often projected from the outside. It imagines individuals as isolated reactors rather than as nodes in a web of mutual prediction and support. In nuclear catastrophe, as in other disasters, one would expect a wide diversity of responses: some selfish, some altruistic, many mixed. What is important for our purposes is that the default may be more cooperative than the grim stereotypes suggest. That baseline prosocial tendency is a resource eschatological communities can either reinforce or inhibit, depending on their priors.

Christian groups, for example, may be particularly prone to rapid herding around perceived leadership, whether formal pastors or informal figures of spiritual authority. This can be stabilizing if those leaders interpret the situation in ways that encourage care and practical

solidarity. It can be dangerous if they encourage passivity, denial, or scapegoating. In either case, the deep human tendency to align with nearby models—in this case, embodied by other people—is one of the main ways prediction error is tamed when the world goes mad.

### **3.4 Trauma, dissociation, and numbing as forms of surprise minimization**

When the mismatch between expectation and reality is too great to integrate, the system has another set of tools: it can change not only its predictions but the way it lets prediction error register at all. Trauma reactions can be understood, in part, as extreme modes of surprise minimization.

One such mode is dissociation. People report feeling detached from their bodies, as if watching events from outside themselves, or moving through a fog. Time may slow down or speed up; sounds become muffled; emotions feel distant. In predictive-processing terms, this can be seen as a radical down-weighting of precision on certain sensory and interoceptive channels. If the system cannot reconcile what it is receiving with any model, it may treat those signals as effectively unreliable, reducing their impact on higher-level layers. The price is a sense of unreality and later difficulty integrating the experience into coherent memory.

Another mode is emotional numbing. People in the midst of horror sometimes report feeling nothing at all, operating on “automatic pilot” as they act. Here, the discrepancy between what one would expect to feel—terror, grief, rage—and what one actually feels is itself a kind of prediction error. The system, unable to support those expected states without collapse, flattens affect. This can allow vital actions to be taken in the short term, but it can also interfere with later processing and healing, as the emotional meaning of the events remains unregistered.

Intrusive symptoms, such as flashbacks and nightmares, can be understood as the opposite problem: fragments of high-precision error that continue to erupt because the model has never fully assimilated them. The memory of the flash, the sound, the smell, or the sight of bodies remains too salient, reappearing as the system repeatedly and unsuccessfully tries to incorporate it. Predictive-processing accounts of trauma suggest that both numbing and intrusion are failed attempts at model revision: the system oscillates between shutting the error out and being overwhelmed by it.

In nuclear catastrophe, the conditions for trauma are abundant. The sheer scale of loss, the betrayal of expectations about safety and continuity, and the moral injuries associated with witnessing or participating in acts of desperation all feed into patterns that the brain cannot easily reconcile with its prior understanding of the world. In that context, Christian eschatological frames can either help or hinder. If they offer a way to name the horror without denying it, they may support healthier integration. If they are used to minimize or spiritualize

away the reality of suffering, they may encourage dissociation and denial, treating the event as merely a step in a preordained script rather than as a genuine wound in creation.

Taken together, sensory onslaught, information collapse, social herding, and trauma responses illustrate what “maximal surprise” looks like from the inside. They also show the many levers the system has for reducing that surprise: bodily reflexes, group alignment, narrative framing, and even shutting down consciousness of certain signals. It is into this already complex landscape that Christian expectations about the end of the world enter, promising a story in which even nuclear fire has a place. Whether that promise leads to deeper truth and charity, or to seductive anesthesia, is the question the remainder of this paper will pursue.

#### **4. Eschatological Priors: When Catastrophe Already Lives in the Story**

For many Christians, catastrophe does not arrive as a purely novel event. It lands in a landscape already populated by prophecies, symbols, and sermons about the end of the age. In predictive-processing language, there is already a high-level prior that “history ends badly before it is remade.” That prior does not remove the physical and emotional shock of nuclear fire, but it changes how quickly and in what direction the brain can assimilate the event. It makes some interpretations feel immediately natural and others almost unthinkable.

This section examines that eschatological backdrop. It begins with an overview of major scriptural and popular End Times narratives in contemporary Christianity and then considers why nuclear war fits so easily into many of them. It then focuses on the tension between emotional shock and narrative unsurprise: how a believer can be devastated and yet say, with grim composure, that none of this is unexpected. Finally, it frames apocalyptic imagination as a long-run training signal for the brain, shaping predictive priors over decades in ways that may help or harm when crisis comes.

##### **4.1 Scriptural and popular End Times narratives in contemporary Christianity**

Contemporary Christian eschatology is not a single story but a family of overlapping narratives. At the level of scripture, there are recurring motifs: prophetic warnings of judgment, the imagery of Daniel, the apocalyptic discourse in the Gospels, the visions of Revelation, and the expectation of a final reckoning in which God sets the world right. These texts have been interpreted in varied ways across centuries, but they share a sense that history is not an endless loop. It moves toward a decisive unveiling, a crisis in which the hidden structures of good and evil become visible and irreversible.

At the popular level, especially in some evangelical and fundamentalist circles, this has crystallized into more specific scenarios. Many believers are familiar with timelines that include

a great apostasy, the rise of an antichrist figure, concentrated wars in the Middle East, catastrophic judgments on the nations, and either a sudden rapture of believers or a period of tribulation before Christ's visible return. Fiction, films, prophecy conferences, and informal church teaching have given these scenarios vivid detail: global economic collapse, biometric control systems, persecution of the faithful, and large-scale military conflict.

Other Christian traditions place less emphasis on detailed timetables but still assume a final crisis. They stress vigilance, repentance, and the possibility of sudden judgment without endorsing a specific sequence of geopolitical events. Still others, including many mainline and academic theologians, read apocalyptic texts more symbolically, seeing them as unveiling the spiritual stakes of every era rather than predicting a particular calendar of events. Yet even here, the notion that the world's injustices will one day be brought to a head and judged remains a central conviction.

From a predictive-brain standpoint, these narratives function as high-level generative models of history. They tell believers not only what will happen in broad strokes, but what kinds of events are meaningful signs and how to interpret them. Prophetic preaching about persecution, wars, natural disasters, and moral decay as "signs of the times" gradually installs a prior: large-scale crises are not random; they are part of the expected trajectory toward an end. That prior sits quietly in the background until the world begins to resemble the rehearsed images.

#### **4.2 "Wars and rumors of wars": how nuclear fire fits existing expectations**

Among the motifs that many Christians internalize is the phrase "wars and rumors of wars" as a sign of unfolding end-time events. Even outside its original context, it has become shorthand for a world in escalating conflict. Global nuclear war slots neatly into that category. It appears to be both a war of unprecedented scale and the culmination of earlier rumors and threats. The entire Cold War, with its deterrence doctrines and near-misses, already habituated several generations to the idea that the world stood under a nuclear sword of Damocles. For those steeped in apocalyptic preaching, that sword has always been a plausible instrument of judgment.

The specific imagery of nuclear catastrophe also resonates with themes in apocalyptic texts: fire consuming the elements, the heavens darkened, cities destroyed, human power laid low in an instant. Whether or not one endorses direct one-to-one correspondences, the psychological ease with which mushroom clouds can be mapped onto images of cosmic fire is obvious. When an event looks and feels like what one has long imagined the end might look and feel like, it becomes a prime candidate for the label "this is it."

Different theological frameworks will nuance this mapping. Some will see nuclear war as a direct fulfillment of particular prophecies about nations and regions. Others will treat it more

generally as a manifestation of human sin reaching a terminal stage, with divine judgment operating through the consequences of human choices. Still others will emphasize that no one knows the day or hour, resisting the temptation to declare any particular catastrophe as the definitive final one, while still acknowledging that it fits the pattern of a world in rebellion.

The key point for predictive processing is that nuclear fire does not appear as a category error for many believers. It is not simply an unfortunate twist in politics or an accident of technology. It is already in the support of the prior distribution: one of the ways the end of the age might arrive. When sirens sound and screens show explosions on the horizon, the high-level model does not need to be invented from scratch; it has a reserved slot waiting.

#### **4.3 Emotional shock versus narrative unsurprise: holding both at once**

It is tempting to imagine that if an event fits one's eschatological expectations, it will be less emotionally devastating. In reality, people can be simultaneously shattered and unsurprised. The distinction between sensory and narrative levels becomes crucial here.

At the sensory and bodily level, nuclear catastrophe is overwhelming. No amount of preaching or fiction can fully prepare a nervous system for the sound of buildings collapsing, the sight of burned bodies, the smell of smoke and dust, and the visceral knowledge that one's own life and the lives of loved ones are acutely at risk. Prediction errors at this level are enormous, and the organism reacts with fear, grief, and shock regardless of prior theology. Tears, shaking, and the feeling that "this cannot be happening" still arise.

At the narrative level, however, a believer may quickly place the event into an already-formed story: this is the culmination of human wickedness; this is the judgment long warned about; this is the birth pangs of a new creation; this is the tribulation before Christ's return. That interpretive move reduces uncertainty about "what this means" even if it does not reduce the physical danger. It can produce statements like "I always knew something like this would happen," not as bravado but as a genuine reflection of long-held expectation.

Holding both layers at once can produce complex inner states. A person may be screaming internally while speaking calmly about prophecy. They may experience deep sorrow for the suffering around them while also feeling a strange sense of confirmation that their worldview has been vindicated. For some, this confirmation can harden into a kind of coldness: if the catastrophe proves that they were right, they may feel less inclination to question or soften their stance. For others, the combination of expectation and reality intensifies compassion: knowing that such a day might come may have already prepared them to see every remaining moment as precious.

Predictive-processing language helps to keep these layers distinct. Emotional shock reflects bottom-up prediction error slamming into the system. Narrative unsurprise reflects top-down

priors that are finally receiving what they have long predicted. Neither cancels the other. Their interaction, however, will strongly influence behavior. If the top-level story encourages retreat into a bunker of the justified, bodily distress may be endured mainly by withdrawing. If it frames catastrophe as the last chance to embody love, bodily distress may be endured by moving outward toward others. Both responses can arise in people who are, in their own words, “not surprised” that the world has come to this.

#### **4.4 Apocalyptic imagination as a long-run training signal for the brain**

Eschatological priors do not appear overnight. They are shaped by years of sermons, conversations, songs, books, and images. Children hear adults speak of the end of the world; teenagers attend prophecy conferences or watch films in which sudden disappearances and global chaos are dramatized; adults debate timelines and signs at Bible studies. Over time, this apocalyptic imagination becomes a long-run training signal for the brain’s predictive machinery.

When a person repeatedly imagines themselves living through intense end-time scenarios, their generative model learns that such scenarios are not only possible but salient. They occupy more space in the model’s repertoire of futures. Stories of persecution and martyrdom rehearse patterns of courage and suffering; stories of sudden escape rehearse patterns of longing to be removed from danger. The more these images are emotionally charged and socially reinforced, the more precise the associated priors become. They start to function as default interpretive lenses whenever large-scale instability arises.

This has practical consequences long before any actual nuclear exchange. In smaller crises—economic shocks, regional wars, pandemics—believers may already be practicing how they would react to “signs of the times.” Some become skilled at stockpiling and self-protection, cultivating identities as those who will survive when others do not. Others become skilled at hospitality and mutual aid, cultivating identities as those who will open their doors and share what they have. The apocalyptic imagination is the sandbox in which these habits are rehearsed.

In predictive-processing terms, this rehearsal shapes both the content and the precision of high-level priors. If end-time narratives emphasize fear, suspicion, and the inevitability of neighbor turning against neighbor, the brain learns that other people are likely sources of threat in crisis. When catastrophe comes, assigning high precision to that expectation makes antisocial or defensive behavior feel like the least surprising option. If narratives emphasize steadfast love, community, and the call to lay down one’s life for others, the brain learns that even in the worst times, the most self-consistent and least surprising behavior is to help. When catastrophe comes, moving toward others can feel more natural than hiding.

Apocalyptic imagination also affects how quickly the model can adapt when reality does not match exact details. For example, if someone is attached to a very specific prophecy timetable, they may struggle to integrate unexpected features of a real crisis, discarding evidence that does not fit their chart. Someone with a more open-ended eschatology may be better able to revise their understanding while still holding onto core convictions about judgment and hope. In both cases, the long-run training has shaped not only what they expect but how rigid or flexible they are in updating those expectations under pressure.

From a logistic perspective, apocalyptic imagination is one of the ways  $q(t)$ , the lived configuration of a Christian community, is drawn toward or away from  $\tau$ , the manifold of truth and love. When that imagination is saturated with revenge fantasies, escape plots, and an almost gleeful anticipation of others' downfall, crisis will reveal that curvature. When it is saturated with visions of costly faithfulness, solidarity with the suffering, and a longing for God's justice that includes mercy, crisis will reveal that curvature as well. Nuclear catastrophe, if it comes, will not create these priors. It will uncover what has been patiently trained into hearts and nervous systems over years.

In that sense, the End Times live in the story long before they live in the news. How they are told, retold, and emotionally weighted shapes what will later feel like the obvious thing to do when the sky turns strange.

## **5. Two Christian Attractors: Escape or Cruciform Service**

When catastrophe already lives in the Christian story, the question is no longer simply what believers will think, but what they will *do*. From a predictive-processing perspective, a person's deepest priors about God, history, and their own vocation act as attractors in behavioral space. Under extreme stress, when detailed deliberation is impossible, the system falls into patterns that have been rehearsed in imagination, liturgy, and community life.

In many contemporary Christian settings, two such attractors stand out. One is an escape-and-vindication pattern: the sense that the main point of the End Times is to prove that "we were right all along" and to be rescued from a world that was always doomed. The other is a cruciform-service pattern: the sense that the climax of history is the final opportunity to imitate a suffering Christ by loving others at great cost. Both can be framed in biblical language, and both can coexist uneasily within the same person or community. Yet, in the first hours of nuclear war, they lead to radically different uses of breath and time.

## 5.1 The escape and vindication attractor

The escape-and-vindication attractor is not simply cowardice. It is a structured way of seeing the world, learned over years, in which the central narrative arc runs from a corrupt world through a purifying catastrophe to the separation of the saved from the lost. The emphasis falls less on what believers *do* in the midst of suffering and more on *who ultimately turns out to have believed correctly*.

At a predictive level, this attractor offers two strong benefits. First, it explains disaster quickly and cleanly. Second, it reduces cognitive dissonance for those who have long anticipated such an outcome. The cost is that it can shrink the perceived relevance of neighbor-love at the very moment neighbors most need it.

### 5.1.1 “We were right all along”: catastrophe as confirmation

For someone steeped in this attractor, the first confirmed reports of nuclear detonation do not only signal danger; they signal confirmation. Sermons about impending judgment, discussions of global decay, and warnings about God’s wrath against nations may have accumulated, over years, into a high-precision prior: “This world is headed for fiery collapse, and most people are blind to it.” When that collapse finally arrives in unmistakable form, the prediction error at the highest narrative level is low. The catastrophe fits.

Emotionally, there may still be fear and grief, but alongside them a powerful current of “This is exactly what we warned about.” That current can feel oddly stabilizing. In a moment when almost everything else is in flux, the conviction of having correctly read the times becomes a psychological anchor. The brain, desperate to minimize surprise, leans on that anchor hard. The internal narrative shifts from “What is happening?” to “So it has begun.”

From the outside, this can look like eerie composure or even callousness. Inside, it may feel like relief from a long-standing tension: the mismatch between a grim eschatological worldview and the relatively normal surface of everyday life has finally been resolved. The world now looks as dark as one’s theology always implied it would. That resolution can make it harder, not easier, to respond flexibly to the concrete needs of the moment. If the main surprise has been removed at the doctrinal level, it becomes tempting to treat everything that follows as mere epilogue.

### 5.1.2 Withdrawal, spectator eschatology, and the shrinking of responsibility

Once catastrophe is framed primarily as confirmation, the next move is often withdrawal. This can be physical—retreating to bunkers, stockpiles, or tightly controlled church compounds—or psychological, a drawing-in of concern to a very small circle. The logic is straightforward: if the world is under judgment and the decisive line between saved and lost is already drawn, then the main task is to preserve oneself and one’s own until the end.

This yields what might be called spectator eschatology. Believers watch events unfold as spectators in a stadium, convinced they understand the script, rather than as actors whose choices still meaningfully affect others. Prayers, if they continue, may focus on speedy deliverance rather than on strength for costly service. News, if available, becomes fuel for an internal commentary about prophecy fulfillment rather than a prompt for concrete action. Responsibility shrinks to the maintenance of personal purity and doctrinal correctness in the face of a doomed world.

At the level of predictive processing, this is a low-surprise policy. If the prior is that nothing truly redemptive can be done for the broader society at this stage of history, then attempts to help, reconcile, or rebuild feel almost nonsensical. They generate prediction error: why bother patching a ship one is certain will sink in minutes? By contrast, withdrawing, waiting, and mentally tracking “signs” fit the model snugly. They require little updating and so feel self-evidently appropriate.

The danger is obvious. The same theological framework that could have prepared people to face suffering with courage has been tuned, instead, to make disengagement the least surprising option. Catastrophe then becomes an occasion, not for repentance and deeper love, but for a settled satisfaction that one has been on the right side all along.

## **5.2 The cruciform service attractor**

The cruciform-service attractor begins from many of the same doctrinal elements—sin, judgment, the cross, the hope of resurrection—but organizes them differently. Here, the central narrative arc is not primarily about escape from a doomed world but about faithful witness within it. The end of the age is still real, but it is seen as the final arena in which the pattern of Christ’s self-giving love is to be lived out in extremis.

Predictively, this attractor teaches the brain a different basic expectation: “When things are at their worst, this is when we are most called to love.” Over time, repeated sermons, stories, and practices can make that expectation deeply familiar. In such a person, the least surprising way to be themselves in catastrophe is to act for others’ good, even at significant personal cost.

### **5.2.1 Following a suffering Christ into the rubble**

For believers formed by this attractor, Christ is not primarily the one who pulls them out of the world’s pain, but the one who walked into it. The cross is not only a legal transaction but a pattern: a life poured out for enemies and friends alike. Eschatological texts are read not only as warnings about judgment but as calls to endurance, hospitality, and mercy under pressure.

When nuclear fire comes, the initial bodily shock is the same, but the internal script that snaps into place differs. The thought is not only “So it has begun,” but “This is exactly where he would

be—among the wounded, the terrified, the dying.” That association can be as stabilizing, in its own way, as the “we were right” reflex of the escape attractor, but it stabilizes behavior in the opposite direction. The believer’s sense of self is tightly bound to the image of Christ turning toward suffering rather than away from it. To do otherwise feels like a deep betrayal of identity.

Following Christ into the rubble is not a romantic gesture. It can involve moving through smoke and debris to pull people out, sharing limited food and water instead of hoarding it, giving up one’s place in a shelter to someone more vulnerable, or simply remaining present with those who are dying. Each of these choices increases exposure to danger and discomfort. Yet, for someone whose highest-level prior is “My life is hidden with Christ in God, and my calling is to love as he loved,” such choices may actually *reduce* prediction error. To hide in safety while others suffer might feel more dissonant than to risk one’s own life.

### **5.2.2 Love, mercy, and concrete care as low-surprise identities**

The language of identity is key. Over time, communities that emphasize practical love train their members to see “we are those who care for others” as a core truth about themselves. This is reinforced in worship, storytelling, and shared action long before any catastrophe. When the brain internalizes such an identity as a highly precise prior, acting in loving ways becomes the low-surprise policy even when circumstances change radically.

In predictive-processing terms, concrete acts of mercy become the expected response to distressing input. The sight of someone in pain generates not only empathic discomfort but a prediction: “People like us move toward this.” Failing to do so creates error at the level of self-understanding. The system moves to reduce that error by aligning behavior with the prior. In the first hours after nuclear attack, this can take the form of spontaneous organization: believers clearing debris together, pooling resources, improvising soup lines, or setting up prayer circles that double as emotional triage.

This does not mean that fear vanishes or that every believer shaped by such narratives will act heroically. Bodies still tremble, and many will freeze or flee. But at the group level, the cruciform-service attractor can generate visible patterns: churches opening basements as shelters, pastors and lay leaders refusing to evacuate until others are safe, ordinary members taking significant risks to check on neighbors. These patterns, in turn, reinforce the prior for those who witness them, making mercy feel even more obviously “what we do.”

### **5.3 How similar doctrines feed opposite behavioral policies**

A striking feature of these two attractors is that they often draw on ostensibly similar doctrines. Both may affirm that the world is fallen, that judgment is real, that Christ will return, and that history has an end. The divergence lies in which elements are weighted as most salient and how they are linked emotionally.

In the escape attractor, the emphasis falls on separation: saved versus lost, church versus world, purity versus corruption. The cross may be framed primarily as the mechanism by which individuals are transferred from one category to the other. Eschatological texts are read as schedules of retribution. Emotionally, the dominant tone toward the world can be wary, resentful, or exhausted. Under such a prior, catastrophe is expected to reveal who was right, and the main policy is to stay on the right side.

In the cruciform-service attractor, the emphasis falls on solidarity: God with humanity in weakness, the church as a body sent into the world's pain, the cross as both atonement and pattern. Eschatological texts are read as summons to patient endurance, costly witness, and hope that extends beyond death. Emotionally, the dominant tone toward the world is sorrowful love. Under such a prior, catastrophe is expected to reveal where Christ is still to be found—in the least, the lost, and the suffering—and the main policy is to meet him there.

From the standpoint of predictive processing, these are different parameterizations of the same high-level model. The formal belief “The world will be judged” can be coupled either to “and my task is to survive it” or to “and my task is to love in the midst of it.” Once those couplings are in place, they drive very different action policies under stress. Both can be justified with proof texts. Both can be reinforced by pastors, media, and peer groups. Yet only one aligns with the pattern of a Christ who, when the world's hatred converged on him, did not call down fire on his enemies but forgave them.

#### **5.4 Case sketches: two believers in the same ruined city**

To make these attractors less abstract, imagine a single city struck by a nuclear weapon. The central districts are flattened; outlying neighborhoods are badly damaged but partially intact. Communications are intermittent. Sirens, fires, and cries fill the air. Among the survivors are two believers who, until this day, attended similar churches, sang similar hymns, and read the same Bible.

The first, call him Daniel, has long been captivated by prophecy charts and end-time speculation. His bookshelf is full of novels about the tribulation, documentaries about secret cabals, and sermons on the coming wrath. He has always felt out of place in the world and has privately looked forward to the day when God would prove that this society was as corrupt as he believed. Over the years, he has also stocked his basement with food, weapons, and Bibles, convinced that persecution and collapse were imminent.

When the blast hits, Daniel is thrown to the floor, cuts his head, and stumbles outside to see a distant column of smoke. His heart races, his ears ring, and for a few minutes he is as stunned as everyone else. Then, as sirens begin to wail, the narrative clicks into place: this is it. A strange calm descends. He shepherds his family into the basement, bars the door, and turns on a

battery-powered radio. Reports are chaotic, but every mention of multiple cities, missiles, or foreign enemies makes his heart tighten with a grim satisfaction. He prays for protection and for the speedy return of Christ. When a neighbor bangs on the door, begging for water and a place to shelter, he hesitates. Letting them in would strain his carefully calculated supplies and could invite conflict. The thought that he might be turning away Christ himself flickers once, then is drowned by another: this is judgment; I warned them. He turns up the radio to drown out the knocking.

The second believer, call her Miriam, has also heard years of teaching about the end times, but in her case the emphasis has been different. Her church talks often about the cross as God's way of entering human suffering, about the call to love enemies, and about the martyrs as witnesses whose deaths are seeds for new life. She has volunteered at shelters, visited the sick, and helped organize mutual aid during lesser crises. When she thinks of the end of the world, she imagines herself holding someone's hand.

When the blast hits, Miriam is also knocked down. Her kitchen windows shatter; her child screams from the next room. She gathers her family, moves them away from broken glass, and checks for injuries. Her hands shake; she has to force her breathing to slow. As the distant column of smoke rises, she feels both terror and a cold recognition: this might be the catastrophe she has long feared and prayed about. Her first instinct is to call her pastor, but the phone is dead. Stepping outside, she sees neighbors wandering, bleeding, shouting names. Without fully thinking, she grabs a first aid kit and a bucket of water and walks toward the street, telling her child to stay with an elderly neighbor.

Over the next hours, Miriam tears sheets for bandages, helps carry an injured man to a more stable building, shares the remaining water, and sits with a woman who has just realized her husband was downtown at the time of the blast. She prays with those who ask and silently for those who do not. Each small act feels both impossible and obvious. She notices, dimly, that she herself might be inhaling dust she should not, that she has given away more food than is prudent, that staying here instead of fleeing to a less damaged area carries real risk. But when she imagines withdrawing to save herself, a deeper dissonance rises: people like us do not abandon others. That thought hurts more than the ache in her back.

Daniel and Miriam inhabit the same ruined city, breathe the same smoky air, and hear the same sirens. Both interpret the event as some version of "End Times." Yet their predictive priors, shaped over years by different eschatological emphases, pull them toward different attractors. For Daniel, minimizing surprise means staying consistent with a narrative of separation and vindication, even at the cost of turning neighbors away. For Miriam, minimizing surprise means staying consistent with a narrative of cruciform love, even at the cost of exposing herself to further harm.

Neither is a caricature. Daniel may later feel remorse; Miriam may later collapse from exhaustion and fear. Real people are more mixed than sketches. But the contrast illustrates the central claim of this section: the same doctrines, arranged differently in the predictive hierarchy of the heart, can make withdrawal or courageous service feel, in the first hours of nuclear catastrophe, like the most “natural” and least surprising thing in the world.

## **6. Predictive Brains, Narratives, and Moral Agency Under Extreme Surprise**

The free energy principle can sound deterministic: brains are machines that minimize surprise; given a set of priors, certain behaviors follow. At the limit, that can sound like a denial of agency. If our deepest expectations and stories are doing the driving, what is left of responsibility? This tension sharpens in catastrophe. When the world seems to end, people reach for narratives that compress horror into a single, gripping explanation. Political, conspiratorial, and religious stories function as emergency patches to the generative model, stitching chaos into something that feels navigable. Some of those patches stabilize compassion and clarity; others stabilize resentment and passivity.

This section explores that contested terrain. It begins with high-compression stories as a basic cognitive strategy under extreme surprise and then looks at the competition between political, conspiratorial, and religious frames in the first hours and days of nuclear war. It then asks what happens when “It’s End Times” becomes such a powerful patch that it quiets the brain while deforming the heart. Finally, it returns to the question of agency: how responsibility and repentance are still meaningful within a predictive-processing picture, and how theology can either support moral awakening or serve as a sophisticated anesthesia.

### **6.1 High-compression stories as emergency patches to the generative model**

Under extreme surprise, the brain has a problem of bandwidth. There is too much happening, too quickly, at too many levels of the hierarchy. Raw sensory data surge; social signals contradict; long-term expectations disintegrate. In such moments, detailed, nuanced models are simply not usable. There is no time to carefully weigh evidence or to construct a finely textured understanding of causes and consequences. What the system craves is a story that does three things at once: explains a lot, fits existing priors, and yields a clear direction for action or inaction.

High-compression stories meet that need. They are simple narratives that map a wide range of events onto a small number of causes and meanings. “This is an enemy attack,” “This is the failure of our corrupt leaders,” “This is divine judgment,” “This is the beginning of liberation”—each of these compresses tremendous complexity into a compact label. Once such a label is accepted, many details can be ignored or forced to fit. The cognitive load drops; prediction error

at higher levels decreases. The world may still be horrifying, but it is at least intelligible enough to move within.

These emergency patches are not purely intellectual. They carry emotional and moral content. They tell people not only what is happening but whom to blame, whom to trust, and what sort of person they should be now. They come with implied policies: fight, flee, endure, repent, organize, wait. From the standpoint of the free energy principle, their attractiveness lies in the speed and scope with which they reduce uncertainty. From the standpoint of moral theology, their danger lies in how they can normalize responses that would otherwise feel unthinkable.

In nuclear catastrophe, high-compression stories will proliferate. Some will be improvisations; others will be pre-cast from years of ideological or religious formation. The generative model does not care whether such a story is politically, conspiratorially, or theologically shaped; it cares that the story is available and that it works to lower surprise. Agency enters in how individuals and communities have allowed their imaginations to be trained before the crisis, and in whether, even under pressure, they can still interrogate the stories they are tempted to inhabit.

## **6.2 Political, conspiratorial, and religious frames in competition**

In the first hours of nuclear war, multiple interpretive frames will compete to occupy the top of the hierarchy. Political frames might emphasize national betrayal, strategic miscalculation, or long-standing grievances between states. Conspiratorial frames might attribute the catastrophe to hidden elites, false flags, or elaborate deceptions designed to usher in a new order. Religious frames might read the event as divine judgment, satanic attack, apocalyptic fulfillment, or some combination of these.

Each frame offers its own set of high-compression stories. Political narratives may say, “This is what happens when we elect weak leaders,” or, “This is the inevitable result of imperial overreach.” Conspiratorial narratives may insist that the attack is staged, that the images are manipulated, or that a shadowy cabal benefits from the chaos. Religious narratives may declare, “This is exactly what the prophets spoke of,” or, “This is the final sifting of true and false believers.” All of them can be expressed with conviction; all can be reinforced by selective attention to evidence.

From a predictive-processing view, the brain will tend to favor the frame that best aligns with pre-existing high-level priors. Someone already deeply invested in partisan politics may experience the event primarily as confirmation of their side’s warnings and the other side’s failures. Someone steeped in conspiracy thinking may find it easier to believe that the catastrophe is a staged spectacle than to accept its plain horror, because the former matches their long-habituated expectation that nothing is as it seems. Someone shaped by apocalyptic

preaching may gravitate quickly to an End Times interpretation, because that has long been their default lens for large-scale disaster.

These frames are not purely rivals; they can fuse. An apocalyptic believer can adopt conspiratorial motifs to fill in missing details. A political partisan can sacralize their narrative, casting their nation or party in eschatological roles. This fusion can make the resulting story even more compelling to the predictive brain, because it harmonizes multiple layers of identity at once: citizen, insider, believer. The more dimensions of the self a story packs in, the more error it can soak up in one stroke.

The competition between frames matters, not only for epistemic reasons, but for behavioral ones. A political story that stresses collective responsibility and the need for restraint may point toward de-escalation and care. A conspiratorial story that insists everything is fake may encourage reckless disregard for actual dangers. A religious story that centers on God's mercy alongside judgment may prompt repentance and solidarity; one that centers on revenge may license indifference or cruelty. The predictive machinery does not fix which story wins; it amplifies whichever story the person and their community have already made easiest to believe.

### **6.3 When “It’s End Times” calms the model but distorts the heart**

For many Christians, “It’s End Times” is the highest-compression story available for global catastrophe. It explains wars, disasters, moral decay, and persecution in one phrase. It aligns with years of preaching and study, and it connects present events to a cosmic drama with a known endpoint. In a nuclear crisis, this story can dramatically calm the generative model. Instead of flailing to incorporate unprecedented events, the brain can slot them into a narrative that has long been rehearsed: this is what we expected all along.

That calming effect is not inherently bad. When panic is a real danger, rapid access to a meaningful frame can help people make wiser choices. It can sustain hope that history is not random, that justice will somehow be done, and that death is not the last word. It can steady hands during triage, soften fear of dying, and encourage people to see beyond the immediate chaos. In this sense, eschatological faith can serve as a powerful anti-fragmentation resource for predictive brains under extreme stress.

Yet the same story can distort the heart. If “It’s End Times” is held in a way that makes the suffering of others feel inevitable and therefore unimportant, the calming of the model comes at a moral cost. The believer may feel less urgency to relieve pain because the pain is read as a necessary step in a larger script. The horrors of nuclear war may be silently reclassified from “appalling evils that must be resisted and mourned” to “birth pangs” that justify a kind of

spiritual detachment. In this configuration, theology helps minimize surprise at the price of minimizing compassion.

On the predictive side, the distortion occurs when the End Times frame is assigned overwhelming precision relative to other priors. If the conviction that “this is prophecy fulfilled” is treated as nearly infallible, conflicting cues—such as Jesus’s commands to care for enemies, or the sheer human reality of the victims—may be down-weighted as noise. Any emotional responses that do not fit the expected eschatological script can be suppressed. Grief, outrage at injustice, and the impulse to protest or resist may be interpreted as signs of weak faith or insufficient trust in divine sovereignty.

Theologically, the danger is that eschatology, instead of deepening love, becomes a shield against it. The believer feels certain of the big picture and uses that certainty to deflect the weight of particular faces, cries, and ruins. The brain is peaceful; the heart is hardened. That is not the peace Christ promises. It is a counterfeit calm produced by aligning one’s internal model to an abstract timeline while ignoring the concrete command to love the neighbor bleeding at one’s feet.

#### **6.4 Responsibility, repentance, and the risk of using theology as anesthesia**

Within a predictive-processing framework, responsibility does not vanish. It shifts focus. We are not responsible for the fact that our brains minimize surprise; that is a condition of being human. But we are responsible, individually and collectively, for how we train our priors over time and for whether we allow those priors to be challenged when they harm others.

Eschatological teaching, political discourse, and everyday choices all contribute to the shaping of high-level expectations that will one day drive behavior under stress.

Repentance, in this light, is not only sorrow for past actions but a willingness to update the generative model in the direction of truth and love. It is a decision to let previously high-precision beliefs be interrogated by the witness of Christ, by the cries of victims, and by the promptings of conscience. This updating is costly. It raises prediction error in the short term; it destabilizes familiar narratives. Yet without it, the system can drift into configurations where minimizing surprise requires ignoring or reinterpreting harm.

The risk of using theology as anesthesia is real. When doctrines are deployed primarily to make reality feel less threatening, rather than to align the self with the demands of love, they function like sedatives. “God is in control,” “This world is not our home,” and “These things must take place” can all be true in a deep sense, yet misused as tranquilizers that dull concern for justice and compassion. Under nuclear fire, such misuse can justify catastrophic omissions of care. If nuclear war is read simply as a foregone conclusion in God’s plan, the human choices that led to it and the possibilities for different choices in the future recede from view.

Moral agency, then, consists in part in refusing to let theology be reduced to a comfort drug. It consists in insisting that any eschatological model must be held alongside and under the commands to love God and neighbor, to care for the least, and to seek peace as far as possible. It also consists in recognizing that the stories we tell ourselves now, in relative safety, are already training our predictive brains for whatever crises may come.

From a logostic standpoint,  $q(t)$  is never purely determined by its past; it can still bend toward  $\tau$  at each moment. Even under extreme surprise, small acts of reorientation are possible: choosing to open a door rather than keep it barred, choosing to share water rather than hoard it, choosing to see an enemy's child as precious rather than as collateral. These choices may feel initially more surprising than withdrawal and self-protection, because they go against some entrenched priors. But as they are repeated, they become the new low-surprise pattern: mercy becomes the expected thing, even in ruins.

The question is not whether theology will be used under extreme surprise. It will be. The question is whether it will be used to anesthetize or to awaken, to protect the ego or to free it for self-giving love. Predictive brains need stories to survive the unthinkable. Christian eschatology, rightly ordered, can provide such a story without sacrificing moral clarity. Wrongly ordered, it can become the most sophisticated excuse for not feeling what God feels or doing what Christ did.

## **7. A Logostic Reading: $q(t)$ , $\tau$ , and Eschatology Under Fire**

Logostics offers a way to speak about Christian communities not only in doctrinal or sociological terms, but as dynamical systems: living ensembles of bodies, brains, practices, and stories evolving in time. In this language,  $q(t)$  denotes the actual configuration of a community at time  $t$ : its habits of attention, its reflexive expectations, its typical responses to threat and need.  $\tau$  denotes the truth-shaped manifold toward which  $q(t)$  is (or is not) bending: the pattern of reality as God sees it, including the form of Christ and the commands to love God and neighbor.

Eschatology, in this frame, is not merely a set of propositions about the end; it is the way  $\tau$  “leans” into time, giving history a moral slope. When nuclear catastrophe hits, it does not suddenly generate that slope; it exposes how  $q(t)$  has been moving relative to it all along. A logostic reading of eschatology under fire therefore asks less, “What do Christians say they believe about the end?” and more, “How does their actual predictive life together— $q(t)$ —react when the horizon collapses? Does nuclear shock drive them closer to  $\tau$  or reveal that they were already curving away?”

## **7.1 $q(t)$ as the lived, predictive Christian community under nuclear shock**

$q(t)$  is not an abstract probability distribution; it is bodies in pews, hands on shoulders, glances exchanged, cupboards stocked (or left empty), sermons preached, children watching. Before any crisis,  $q(t)$  already encodes a community's practical eschatology: whom they trust, whom they fear, what they do when resources are scarce, how they treat outsiders, and how seriously they take the command to love enemies.

Under nuclear shock,  $q(t)$  is jolted but not erased. The same predictive machinery that governs individuals operates at a higher scale in the community. Congregations have shared priors: "We help each other," "The world hates us," "We must keep our witness pure," "We are here for this neighborhood," "We will be taken out before it gets really bad," and so on. These priors have been shaped by years of preaching, liturgy, and informal talk. In the first hours after catastrophe, they act as attractors for collective behavior.

In some churches,  $q(t)$  under shock may tilt toward gathering inward: locking doors, rallying around leaders, hoarding supplies. In others, it may tilt outward: opening sanctuaries as shelters, sending teams into the streets, improvising care. Both responses can be wrapped in biblical language. Logistics insists on looking beneath the language to the actual trajectories: what does  $q(t)$  *do* with its fear, its grief, and its hope?

Because  $q(t)$  is predictive, it not only responds to present stimuli but anticipates near-future states. A community that has practiced mutual aid in smaller crises will find it less surprising, and therefore more natural, to do the same when the stakes are higher. One that has practiced insulation and separation will find it less surprising to tighten its boundaries when the world outside catches fire. The nuclear event, from the perspective of  $q(t)$ , is a huge perturbation, but it will still flow along the channels that have been carved over years.

## **7.2 $\tau$ as truth-shaped eschatology: judgment, mercy, and non-escapist hope**

$\tau$ , in this context, is not an arbitrary "target state" but the manifold defined by God's own character and purposes as witnessed in scripture and in Christ. Eschatology that reflects  $\tau$  will contain at least three elements held in tension: judgment, mercy, and non-escapist hope.

Judgment names the real exposure of evil and the refusal of God to let injustice stand forever. Nuclear war has a judgment-like character: it reveals, in one terrible flash, the accumulated failures of nations, technologies, and hearts.  $\tau$  does not deny this; it insists that moral structures are real and that actions have consequences. A truth-shaped eschatology, however, will never equate human acts of annihilation with God's own will. It sees judgment not as a license for spectatorship, but as a summons to repentance and repair.

Mercy names God's persistent movement toward the broken, including those who are complicit in the very evils being judged.  $\tau$  is shaped like a cross: a place where divine judgment and mercy intersect in self-giving love. Eschatology aligned with  $\tau$  therefore cannot rejoice in destruction or treat victims as mere objects in a cosmic object lesson. It will always ask, even at the end, "Where is God's mercy moving now, and how might we join it?"

Non-escapist hope looks beyond catastrophe without fleeing from it. It affirms resurrection and new creation, but refuses to use them to minimize the seriousness of present suffering. It recognizes that hope is not a ladder out of history but a light within it. For  $\tau$ -shaped eschatology, nuclear fire is not the final word, but neither is it simply "necessary." It is a wound in creation that grieves the heart of God, even if God can and will bring good beyond it.

When  $\tau$  is configured this way, the end of the world is not primarily a timetable but a moral contour: a shape of reality in which judgment is real, mercy is deeper, and hope is stubbornly oriented toward life. Logostically, the question is how far  $q(t)$  has already conformed to that contour before crisis, and how much room remains for turning when sirens sound.

### **7.3 How crisis reveals the pre-existing curvature of $q(t)$ toward or away from $\tau$**

In quiet times, discrepancies between  $q(t)$  and  $\tau$  can be masked. Polite habits, stable institutions, and absence of existential threat allow communities to maintain self-images that are only loosely tied to their actual pattern of behavior. Nuclear crisis strips away many of those buffers. Under pressure,  $q(t)$  follows the paths of least resistance: the grooves cut by past choices, stories, and practices.

If a community has cultivated resentment toward outsiders, crisis will reveal that curvature in acts of exclusion or scapegoating. If it has cultivated generosity, crisis will reveal that in acts of sharing and hospitality. If it has treated enemies as abstract beings to be denounced from the safety of a pulpit, crisis will show whether it is willing to treat them as neighbors when they appear, hungry and frightened, at the door.

In logostic imagery,  $\tau$  can be pictured as a kind of moral-spiritual manifold, sloping toward Christlike love.  $q(t)$  moves on or around this manifold, sometimes drifting away, sometimes bending closer. Nuclear catastrophe acts like a sudden gravitational test: it shows whether the inner trajectory of  $q(t)$  has been inward, toward self-protection and vindication, or outward, toward self-giving love. The event does not invent the curvature; it reveals it.

This revelation can be both gift and judgment. For communities, seeing themselves clearly under crisis can prompt repentance: a recognition that their eschatology has been more about escape than about fidelity. That repentance, in turn, can lead to late but real reorientation: changing how resources are used, how doors are opened, how enemies are spoken about. For

others, the same revelation may harden existing patterns: “We were right to separate; look how dark the world is.” In that case, crisis confirms a curvature already bending away from  $\tau$ .

The logostic point is not to pronounce final verdicts but to highlight that the shape of  $q(t)$  matters long before any end-time scenario. How churches handle smaller shocks—local disasters, political upheavals, pandemics—are already partial tests of curvature. Nuclear war would simply be the most intense mirror.

#### **7.4 Minimizing surprise without minimizing love: toward a cruciform equilibrium**

If brains and communities must minimize surprise to remain viable, and if  $\tau$  calls them toward costly love that often seems “surprising” by worldly standards, is there a contradiction? Logistics suggests a different way to see it: the task is not to abandon surprise minimization, but to allow love itself to become the least surprising thing—to form an equilibrium in which the path of Christlike self-giving is, for the community, the natural, low-error way to be.

Practically, this means training predictive priors so that acts of mercy, hospitality, and enemy-love are expected responses to distress, not exceptional ones. When churches normalize practices like sharing resources, visiting prisoners, welcoming strangers, and standing with the vulnerable, they are not only obeying commands; they are reshaping  $q(t)$ . Over time, these patterns become the community’s default policies. In a crisis, acting otherwise—hoarding, excluding, abandoning—would generate internal dissonance. Love has become the equilibrium.

Under nuclear shock, such a community still experiences fear and confusion. But when its members look around for the “obvious” next step, that step is more likely to involve caring for those nearby. The predictive brain, rather than fighting against love as an added burden on top of survival, treats love as part of survival’s own logic: “We survive as the kind of people we are, and the kind of people we are help.” In this sense, minimizing surprise and maximizing love are no longer opposing vectors; they have been braided together.

Reaching such a cruciform equilibrium is a long work. It requires teaching eschatology in a way that keeps Christ’s pattern at the center, not charts or speculation. It requires immersing congregations in stories of saints who embraced suffering for others, not only in scenarios where the faithful are whisked away. It requires liturgies that rehearse lament and intercession for enemies, not only songs that celebrate deliverance. It requires honest attention to how money, time, and energy are used, because those choices carve the grooves along which  $q(t)$  will later run.

Logostically, one could say that spiritual formation is the slow adjustment of  $q(t)$ ’s priors so that  $\tau$  is no longer an alien surface but a familiar home. When the end of the world comes—whether by nuclear fire, environmental collapse, or the quiet death of an empire—communities that have made  $\tau$  their home will still seek to minimize surprise. But for them, the most unsurprising

thing will be to look for Christ among the least, to share what they have, to speak truth without hatred, and to die, if necessary, in a way that witnesses to a kingdom not built on fear.

In that final sense, eschatology under fire is a test not of speculative accuracy but of alignment. The measure is not how precisely a community predicted the sequence of events but how closely  $q(t)$ , under the fiercest pressure, bends toward the cruciform shape of  $\tau$ .

## **8. Implications for Pastoral Care, Disaster Preparedness, and AI-Mediated Narratives**

If predictive brains under nuclear shock will fall back on whatever eschatology has been practiced into them, then pastoral care and formation are not luxuries. They are long-term disaster preparedness. The way leaders preach about the end, design worship, encourage or discourage mutual aid, and talk about politics and technology is already shaping the priors that will govern behavior when the world shudders. In a time when media and AI systems continually reinforce or distort those priors, churches and communities face a double task: to prepare hearts for unthinkable days and to curate the streams of narrative that flow into their members' minds.

This section turns from description to implication. It asks how to teach about the End Times without training for fatalism, how liturgies and even practical drills can create moral muscle memory for crises, how media and AI shape eschatological expectations, and what concrete counsel can be offered to churches and communities that want to minimize surprise without minimizing love.

### **8.1 Teaching End Times without training for fatalism**

Pastors and teachers cannot simply avoid eschatology. Avoidance leaves the field open to more sensational voices and to secular narratives that treat catastrophe as either meaningless or inevitable. The task is to teach about the end in a way that preserves the gravity of judgment and the reality of suffering while refusing the slide into resignation or voyeurism.

One approach is to continually tether eschatological texts to the character of Christ. Whenever passages about war, famine, or persecution are read, they should be paired with scenes of Jesus feeding crowds, healing the sick, forgiving enemies, and weeping over a doomed city. This coupling trains hearers to associate the end not only with cosmic upheaval but with the enduring shape of divine compassion. The implicit prior becomes, "Whatever happens, God looks like this."

Another approach is to emphasize the ongoing relevance of eschatology. Instead of treating apocalyptic passages as cryptic codes for a distant future, teach them as lenses for evaluating current injustice and idolatry. This encourages active engagement rather than passive

countdown-watching. The community learns to ask, “What does it mean to be faithful now?” rather than “How close are we to the timeline on the chart?”

Finally, teachers can consciously deconstruct fatalistic patterns. When members express excitement at the prospect of the world burning or speak of others’ suffering as proof they were right, this should be gently but clearly challenged. Eschatology should be framed as deepening responsibility, not shrinking it. If the end is near, the logic should be that love is more urgent, not less.

## **8.2 Liturgies, drills, and moral muscle memory for unthinkable days**

Words alone rarely rewire deep priors. Practice does. Churches that want to form q(t) toward cruciform equilibrium can treat both liturgy and practical planning as ways of building moral muscle memory.

Liturgically, this means regularly praying for enemies, interceding for nations in conflict, lamenting violence, and confessing complicity in structures that make catastrophe more likely. It means including in worship not only songs of triumph and intimacy but also psalms of fear, anger, and trust under pressure. When communities learn to voice these prayers now, they are less likely to be paralyzed by inarticulate grief later.

Practically, churches can integrate disaster preparedness with discipleship. This might look like hosting first-aid trainings, establishing mutual-aid networks, mapping vulnerable members who would need help in an evacuation, or developing simple communication plans for power outages. The key is to explicitly link these activities to the call to love neighbors. Stockpiling becomes less about self-preservation and more about being able to share. Drills become rehearsals for mercy, not only for survival.

Such practices may feel extreme when the sky is clear. That is precisely the point. Moral reflexes are not built in the moment of crisis; they are built in the months and years before. When a congregation has repeatedly practiced, in small ways, what it would mean to be present in catastrophe, their predictive priors shift. Helping in danger feels less like a heroic exception and more like what people like us do.

## **8.3 The role of media and AI systems in shaping eschatological priors**

In the contemporary environment, most believers do not form their End Times expectations solely in church. They are shaped by news feeds, streaming platforms, social media algorithms, and increasingly by interactions with AI systems. These channels can amplify fear, polarize interpretations, and normalize conspiratorial thinking, or they can broaden perspective and deepen empathy.

Pastors and communities need to recognize that media diets are eschatological formation. Constant exposure to dystopian fiction without accompanying moral reflection can strengthen priors that the future is only dark and that human agency is negligible. Echo chambers that frame every geopolitical development as immediate fulfillment of a particular prophecy can increase the precision of narrow, rigid priors that may later override compassion. Conspiracy-driven content can train brains to distrust all institutional communication, making it more difficult to respond wisely in real emergencies.

AI systems, including language models, can either reinforce these tendencies or help counterbalance them. When used uncritically, they may serve up the most extreme or engaging narratives, because those are what attract attention. When used wisely, they can help communities explore a broader range of interpretations, access historical and theological resources, and imagine practical responses that center love rather than fear.

Churches might, for example, teach members to ask better questions of AI tools: not “Is this headline the fulfillment of a specific verse?” but “What are faithful ways Christians have responded to similar crises in the past?” or “How can we prepare to care for others under these risks?” They can also encourage a basic media rule: if a story about catastrophe leaves one more excited about being right than moved by others’ suffering, it needs to be held at arm’s length.

#### **8.4 Preparing hearts and models: practical counsel for churches and communities**

Taken together, the predictive and logistic perspectives suggest several strands of practical counsel for communities that want to be ready, not only physically, but morally and spiritually, for unthinkable days.

First, examine current eschatological teaching. Does it emphasize charts and enemies more than Christ and the commands to love? Does it spend more time speculating about timelines than about what faithfulness looks like under pressure? Where necessary, recalibrate. Introduce voices and traditions that stress endurance, mercy, and solidarity in suffering.

Second, cultivate practices of mutual aid now. Begin with simple, local acts: food pantries, emergency funds, neighborhood support groups, shared childcare, visiting the sick. Explicitly name these as eschatological acts: foretastes of the kingdom’s way of being in a world that may yet convulse. The more such acts become part of the community’s identity, the more likely they are to persist when resources are strained.

Third, talk openly about fear. Invite members to acknowledge their anxiety about war, climate, economic collapse, and personal mortality. Provide space for lament and for processing news, not only in private but together. Normalize the idea that faith does not erase fear but gives it a place within a larger story. Equip people to recognize when their fear is being manipulated by media or by theological voices that trade in excitement rather than in sober hope.

Fourth, integrate ethical reflection on technology and weapons into discipleship. Discuss the moral implications of nuclear arsenals, autonomous weapons, and other systems that can end many lives quickly. Encourage engagement with policy where appropriate, but always tie it back to the core question: how does Christ's way of peace and truth challenge the logics under which these systems operate?

Finally, adopt a stance of ongoing repentance and re-alignment. Teach that no community's  $q(t)$  perfectly matches  $\tau$ , and that crises will reveal discrepancies. Make it normal to say, "We were wrong about this," and to change course. This humility, practiced in small matters, may be what enables realignment even under extreme shock. If nuclear catastrophe never comes, the community will still have become more Christlike. If it does, they will have prepared not only bunkers and batteries, but hearts that find it least surprising to love.

In the end, pastoral care and disaster preparedness converge in a single task: helping people become the kind of agents whose predictive models and deepest loves are aligned. The church cannot control history's trajectory, but it can, day by day, form a  $q(t)$  that, when eschatology is no longer theory but smoke in the lungs, bends toward the cruciform  $\tau$  rather than away.

## **9. Conclusion: Keeping Love Predictable When the World Is Not**

This paper began with a question that sounds clinical until it is placed against a burning skyline: if Friston is basically right that brains exist to minimize surprise, what happens when the world appears to end? Nuclear war is not simply another emergency; it is engineered discontinuity, a deliberate attack on the assumption that tomorrow will look anything like yesterday. For predictive brains—human beings whose nervous systems are constantly guessing what comes next—such an event is maximal surprise at every level.

And yet, as we have seen, not all surprise is equal. Some Christians will experience nuclear catastrophe as emotionally shattering but narratively unsurprising. Decades of eschatological teaching, popular prophecy media, and apocalyptic imagination have already carved a place for such events in their generative models. For them, the immediate interpretive move may be "Of course. This is what we were told would come." The free energy principle helps us understand how that move can rapidly stabilize a sense of meaning in the midst of chaos. Logostics helps us ask what that stabilization does to love.

The core claim is simple and sobering: the same eschatology that reduces confusion can either shrink or sharpen responsibility. Predictive brains will, under nuclear fire, do what feels least surprising given the stories they have been living in all along. The central pastoral and theological task is therefore not to eliminate surprise—impossible in such a catastrophe—but to ensure that for Christian communities, love is the least surprising thing left.

## **9.1 What the free energy principle adds to Christian thinking about the end**

For Christian theology, the free energy principle does not replace revelation or moral discernment. What it offers is a unifying way to talk about why certain patterns of response emerge so quickly and feel so “natural” under stress. It reminds us that human beings are not blank slates who simply choose afresh in every crisis. They are predictive creatures whose brains are always trying to keep experience within the bounds of what they expect and can bear.

Applied to eschatology, this means that doctrines about the end do more than populate the imagination; they shape the priors that govern how the brain will interpret and act in catastrophe. If one has been taught that the main point of the End Times is to escape a doomed world and to watch vindication unfold, then withdrawal and spectatorship will feel low-surprise, even righteous. If one has been taught that the main point is to follow a crucified and risen Christ into the world’s pain, then concrete care for others will feel low-surprise, even when it is costly.

The free energy lens also clarifies why high-compression stories—“It’s End Times,” “We were right all along,” “This proves our enemies are evil”—are so attractive in disaster. They rapidly lower prediction error at the top of the hierarchy. Christian thought has long warned against the seductions of simplistic narratives and self-satisfied certainty. The free energy principle gives that warning a neurocognitive dimension: these stories are not only spiritually tempting; they are computationally efficient. That makes the work of cultivating better, truer stories all the more urgent.

Finally, predictive processing underscores the importance of practice. The brain’s priors are not mainly changed by rare, dramatic insights but by repeated experience. Sermons, liturgies, acts of service, and the everyday way a community handles smaller crises are all training data. Eschatology is not only what one says about the last page of history; it is what one does with the next five minutes under pressure.

## **9.2 The enduring difference between being unsurprised and being unloving**

One of the sharpest distinctions this exploration uncovers is that between being unsurprised and being unloving. It is possible to be both deeply shocked and deeply loving in catastrophe. It is equally possible to be narratively calm—unsurprised in the eschatological sense—and yet profoundly lacking in mercy.

Predictive brains like coherence. There is real relief in seeing events match long-held expectations. For some believers, that relief may arrive alongside mushroom clouds: “At last, the world looks as dark as we knew it was.” The danger is that this satisfaction at having been right can quietly outweigh compassion for those now suffering. The reduction in cognitive

dissonance can be mistaken for spiritual peace. The heart can harden precisely where the model feels most serene.

The gospel does not equate spiritual maturity with being difficult to surprise. Jesus himself expresses surprise, grief, and amazement in the face of faith and unbelief, cruelty and generosity. The distinctive mark of his life is not that nothing startles him, but that nothing—no insult, no violence, no abandonment—diverts him from love. He is predictable, not in his emotional responses, but in his unwavering commitment to mercy and truth.

For contemporary Christians, the question is not whether nuclear catastrophe would validate their reading of history. The question is whether their familiarity with apocalyptic themes will free them to love more clearly under fire or will license them to stand at a distance, satisfied that events now “make sense.” Being unsurprised by the world’s capacity for destruction is not the same as being conformed to Christ in how one responds.

### **9.3 Living now as people who would not waste even the last hours**

If the first hours of the end will reveal what has already been formed in hearts and communities, then preparation is not mainly about speculation but about character. The aim is to live now as people who, if they suddenly discovered they had only hours or days left, would not need to radically change their orientation in order to be faithful.

That does not mean living in constant crisis mode. It does mean integrating eschatological awareness into ordinary discipleship. Practices of generosity, hospitality, truth-telling, and enemy-love are not optional extras; they are the very muscles that will be needed when the world shakes. If a congregation rarely crosses social boundaries in peace, it is unlikely to do so in war. If believers routinely excuse cruelty or indifference in political life now, they are unlikely to recognize those same dynamics as sin when they appear in extreme forms later.

Living as if one would not waste the last hours also has a freeing aspect. It relativizes lesser anxieties: status, accumulation, minor grievances, small hatreds. It encourages forgiveness sooner rather than later, reconciliation before it is too late to make the call. It makes space for attention to those on the margins, whose suffering often foreshadows the crises that will later engulf the center. In predictive terms, it shifts the baseline expectation from “Life is mainly about managing my own comfort until some dramatic interruption” to “Life is a continuous opportunity to align with the cruciform  $\tau$ , whether in small or great events.”

Such a stance does not require detailed knowledge of how or when the world will end. It requires a clear sense of what one wants one’s last acts to be, and the willingness to begin doing those things now. Whether or not nuclear fire ever comes, this way of living treats every day as a rehearsal for courage and compassion.

#### 9.4 Final reflections on hope, vigilance, and the refusal of despair

Hope, in this framework, is not optimism about the stability of current systems. It is trust that, whatever happens to those systems, the deeper pattern of reality is faithful and good. Vigilance is not paranoid scanning for every rumor of war, but attentive watching for opportunities to love and for signs that one's own heart is drifting toward hardness. The refusal of despair is not denial of real dangers, but the insistence that no catastrophe can make hatred and indifference into virtues.

Predictive brains crave security; nuclear weapons exist to annihilate it on a planetary scale. Christian eschatology acknowledges that history may indeed end in a convulsion we cannot manage or avert. But it also affirms that there is a security deeper than prediction: the steadfast love of God, the resurrection of Christ, the promise that death will not have the final word. That security does not guarantee that believers will be spared suffering; it guarantees that their suffering is not meaningless and that their acts of love, even in ruins, will not be wasted.

Vigilance, in light of the free energy principle, includes the humble recognition that we are always tempted to choose the lowest-surprise path, even when it leads away from mercy. It suggests regular examination of the stories we tell, the media we consume, the jokes we make, and the fantasies we entertain about the end. Where we find patterns of glee at others' downfall, excitement at chaos for its own sake, or comforting indifference to distant pain, we have located priors that need to be repented of and retrained.

Despair, in this picture, is a kind of predictive collapse: the belief that no possible future is good, that all action is futile, that love is a noble illusion. Against this, Christian faith asserts that  $\tau$ —the truth-shaped manifold defined by Christ's life, death, and resurrection—remains real even when  $q(t)$  is battered. The invitation is not to pretend that nuclear war would be anything less than a catastrophe beyond words, but to trust that even then, the call to love God and neighbor would still stand, and that responding to that call would still be meaningful.

Keeping love predictable when the world is not is a long, patient work: of teaching, of worship, of shared life, of honest engagement with fear and anger, of conscious resistance to narratives that make cruelty and indifference feel natural. The free energy principle reminds us that, under pressure, we will default to what we have practiced. Logostics reminds us that communities can, over time, bend their practiced life— $q(t)$ —closer to the cruciform  $\tau$ . Eschatology reminds us that history will not go on forever. Together, they pose a question that every church and believer must answer now, before sirens wail:

When the unexpected comes, what will be the least surprising thing about us?

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